ORIGINAL COMMUNICATIONS.

USE OF COLD AND HOT AFFUSIONS TO THE HEAD IN CERTAIN FORMS OF HEADACHE.

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HEADACHES are maladies difficult to classify under any well defined philosophical arrangement. The best attempt, perhaps, that has yet been made, is by Dr. P. Murphy, who is publishing a series of papers bearing upon this question in the current numbers of a contemporary periodical. If I should have any fault to find with Dr. Murphy's classification, it would be that it is wanting in comprehensiveness, and that it fails to embrace *all* the conditions under which a headache is practically found to manifest itself. I am not, however, going to take the present opportunity to show how incompetent I am to perform a similar task; since the very title of my paper indicates that I purpose alluding only to those forms of headache which are capable of alleviation or cure by a *distinct specified remedy*—that remedy to be used under circumstances and limits presently to be described. My object is not so much to characterise a disease, as to define the applicability of a particular method for the mitigation of that disease.

In considering the subject under these restrictions, it is obvious that certain kinds of headache will naturally eliminate themselves from my category. Gouty and syphilitic headaches, for example, are from their nature insusceptible of control by means of any outward applications to the part immediately affected; since the proximate causes of these maladies are clearly traceable to a morbid condition of the circulating fluid, which condition needs to be rectified by those medicinal agents, the administration of which must be continued for weeks, or even months, before they exercise their specific influence on the system at large. Still further, it will be found necessary to strike out all those cases of cephalalgia which are distinctly dependent upon the temporary derangement of a natural function. Set that function to rights again—mend the machine which is out of order—and all will speedily be well. A "bilious headache" vanishes after the exhibition of a draught of rhubarb and blue pill: and it would be the merest empiricism to direct our remedies to that particular organ, where, owing to nature's inexplicable sympathies, the pain and disorder chiefly manifest themselves.

Excluding these, and all other varieties of headache which require to be combated in certain special modes, I still have three great phases of this complaint, which are exceedingly common, and exceedingly troublesome.

The first of these depends upon a *plethora of blood*. The second, upon a *deficiency in the quantity*, or a *poorness in the quality*, of the circulating fluid. The third variety of headache is well known to appear as a *preludory symptom* of some of the *acute specific diseases*, and especially of the *exanthemata*.

I have good reason to believe that these three forms of headache, which are often extremely severe, are capable nearly always of alleviation, and sometimes of absolute cure, by the judicious use of hot or cold affusions to the head itself, according to the obvious indications of each individual case. The idea is more novel in practice than in theory. Experience on my own person first taught me how efficacious this method of treatment sometimes is: experience on other people has strengthened that conviction; while every *a priori* consideration which suggests itself in regard to this subject, tends very much to show that it is in its essence a rational and scientific remedy.

We are very much apt, I think, to look upon affusions of water, or of any medicated fluid, as a portion of a regimen and discipline dedicated almost exclusively to the service of those who, by reason of the severity of their complaints, are imprisoned in their rooms and in their beds. We invent

apparatuses of the most elaborate kind, in order to ensure, as far as possible, that a cold affusion shall *really* be a cold one: * so that as the apoplectic or comatose patient lies upon his pillow, the icy trickle may play upon his head as long as the physician wishes. The mechanical regularity of barrels, stopcocks, and pipes, makes good all conceivable shortcomings in the bedside attendant. Physical agencies do the nurse's work, and accomplish that work in a much more certain and efficacious way.

Do not imagine that I grudge the hospital in-patient the use of these hydropathic luxuries. I seek only to extend the benefit of their administration, and that under the most simple and inexpensive form, to the unhappy out-patient also. In other words, I desire to tell all those who depend for a satisfactory performance of their day's duties upon a clear untroubled brain, that that occasional and troublesome headache which spoils business and interrupts enjoyment, and drives them to their sofas or their beds for the remainder of the day, may in numerous instances be vastly palliated without the intervention of more costly materials than a china basin, a soft sponge, and a jug of hot or cold water.

Dr. Graves has noticed the curious fact, that the head is the only one of the three cavities with respect to which long established custom has laid down the maxim, that, when its contents are inflamed, we may cool the surface over it; while in inflammatory affections of the thoracic or abdominal viscera, this practice is avoided as dangerous and inapplicable. Without at present inquiring into the justice of his comment, that this opposition of treatment arises very much from prejudice, I wish to point out the great similarity in the *kind* of pain which respectively accompanies inflammation of the encephalon and a common plethoric headache. The difference is one of *degree* only.† Each heart throb is an agony, and the sufferer instinctively assumes the upright or the semi-recumbent posture. All motion of the body is avoided, as signally aggravating the malady. The muscles of the scalp, face, and neck, are almost unconsciously brought into play, as if their contortions and writhings could alleviate the pain, or check the force of the heart's impulsive action.

Whatever may be the appropriate course of local treatment in acute encephalitis, one thing is certain, that if any individual, who is labouring under headache, and is at the same time fully convinced that that headache is of a purely plethoric origin, and uncomplicated with any other symptom of serious import—if that individual, I say, will only dip the whole of the frontal region of the head into a basin of ordinary spring water, complete and immediate relief will be afforded. So great is the sedative influence of the cold, owing to the sudden contact of the water with the skin, that the inordinate beating of the heart is stopped on the instant; while the capillary blood-vessels of the brain, contracting to their utmost, interpose a still further barrier to the effects of the heart's injecting power. The pain clearly arises from the shock which the heart's throbbings give to the delicate cineritious tissue of the cerebrum and cerebellum; while the arteries are themselves involved in the shock, since the minute nerves which ramify in their coats are exposed to the full force of a persistent vibratile succussion.

An after-dinner headache is a familiar specimen of the plethoric variety. The richness and superabundance of the alimentary material furnish an unnatural stimulus to two organs already overworked—the stomach first, and then the heart through the medium of the blood subsequently generated. The original evil is aggravated by the fact, that plethoric people have usually but little *tone* in their

* See two or three amusing pages in Watson's "Practice of Physic", vol. i, pp. 388-389. Third edition.

† The degree of pain is much greater in one case than in the other, on account of the proportionate increase in the frequency of the heart's action. I am speaking now of a typical case of acute idiopathic encephalitis. But Dr. Todd has shown that, in a large class of cases of inflammation of the brain, the pulse is sluggish and slow, and the heart's action heavy and uncertain. Dr. Todd adds, that in this and other points, he much doubts whether the phrenitis of systematic authors is founded on clinical study; and there cannot, I think, be any doubt as to the correctness of this statement.

systems; so that the ultimate effect of every stimulant is to draw upon those resources which are already limited in extent and in kind. A half hour's nap is a good old fashioned remedy for a post-prandial headache; but, after all, there is nothing like three or four cups of strong tea. Watch the influence of this refreshing beverage—how it soothes the heart, and allays the irritability of the nervous system. Observe more particularly the effect of its administration upon the capillary blood-vessels. Profuse perspiration bathes the skin, and the tongue becomes moist and red, showing that the action of the capillaries has returned, and that their eliminatory powers are again in fresh exercise. All the glandular organs partake in this renewal of functional activity. Reasoning from what we *do* see, we infer what goes on in parts that we *do not* see; and we attribute the renovated condition of the intellectual faculties to the improved tone of the vascular system of the brain.

Cold affusions to the head, and the internal administration of sedatives, must not, however, be expected to do too much. They afford a remarkable temporary alleviation of pain in the head, but their too frequent repetition may induce a species of mild delirium by depressing the nervous influence to an inconvenient degree. Strike directly home at the malady, by depriving our patient of his luxurious condiments, and by restricting him to those varieties of foods which nourish, but do not stimulate. Venesection is seldom desirable, just because it causes a loss of tone, and moreover it is far better to prevent the formation of unnecessary blood by a course of low dieting, etc., than to take it away after it is made. The exhibition of purgatives must be regulated by the collateral circumstances of each case.

The next form of headache I have to speak of, and which is dependent upon a spanæmic or impoverished state of the nutritive fluid, or else upon an insufficient supply, must obviously be treated upon a very different principle. It is of course always curable in the long run by the administration of the ferruginous tonics, a stimulant and nourishing diet, with regular out of door exercise; but, in many cases, great relief may be at once obtained by holding the head over a basin of hot water, and irrigating it from back to front by means of a soft sponge. The water must be *very hot*; and this is of the greatest consequence. It must almost vesiccate the skin; and, as the water in the basin becomes cooled, as it quickly will, a fresh supply must be poured from a jug close at hand.

The water, being in this case only a convenient vehicle of heat, clearly acts by promoting a determination to the comparatively bloodless brain. The injecting power of the heart does not possess sufficient force to propel the blood against gravity; so that all we can do is merely to procure a temporary alleviation of a distressing evil by drawing away some portion of the circulating fluid from another part of the body which is less in want of it, or where its privation will be less severely felt. Moreover, just in the same way as cold acts as a sedative to the heart, so warmth serves for a stimulus: witness the primary effects of a hot bath. It is almost unnecessary to say that no permanent removal of the malady can be expected to accrue from this plan; for, unless it is seconded by the employment of the well recognised therapeutic means, its value will sensibly diminish with each repetition.

The *third* variety of headache which I wish to specify is that which frequently precedes the acute specific diseases, such as the different orders of fever, influenza, hooping-cough, and especially the exanthemata. It is appropriately termed the *congestive* headache. Putting aside those more perilous lesions of the nutritive energy which usher in these formidable complaints, it appears to me that this form of headache depends partly upon the impairment of those forces which circulate the blood in the capillary system, whereby irregularities of its current occur; and partly upon a tendency to congestion, which always arises when the presence of a poison in the circulating fluid destroys the balance of assimilative affinity between the blood and the tissues. Besides this, the prolonged influence of a

morbid material depresses the heart's action, and consequently the brain is insufficiently supplied with the elements of nutrition. The continued chilliness of which the patient complains is another evidence of the loss of vital power, since the body is unable to maintain its own animal heat. The sick man creeps up to the fire, almost gets into it, and hangs his head upon his knees. He affirms upon his honour, that though he should sit upon the bars of the grate, yet would it be with his nethermost parts as though he were in the icy regions.

The pain in the head which accompanies these invagrescent symptoms may often be greatly relieved by the use of affusions of hot water. They must be perseveringly kept up for a considerable time; the most perfect diaphoresis must be established over the face and scalp, before the full value of the remedy will be perceived. We bring the sudoriferous glands of these parts into abundant action, and in this manner we strive to subdue the local congestion of the head, in the same way as the internal administration of diaphoretic medicines indirectly relieves the congested state of other visceral organs. Nor ought we to forget the counter-irritant properties of the water, since it acts for the time like a medicated stimulating cataplasm.

But, in every specific disease of which headache forms one of the preludory symptoms, one of two results must presently ensue. The poison which circulates with the blood and permeates the tissues, either speedily kills by its immediate and positive effect upon the nervous system, or else a reaction takes place, and the capillary blood-vessels show an attempt to eliminate the morbid matter by the usual excretory channels. This reaction is sometimes produced, and always aided, by those particular methods which in the aggregate constitute the *secundum artem* treatment of the medical practitioner. The congestion of the head seems to call most loudly for relief, because it is attended with pain; but, until the disease manifests itself in its usual crisis, until the exanthem exhibits its characteristic efflorescence upon the skin (and even *then* we are sometimes disappointed), we ought not to look for entire freedom from congestion and irritability of the great internal viscera.

There are one or two considerations connected with the pathological meaning of headache, which, I think, readily suggest themselves. If there are certain every day forms of this malady which are clearly attributable to some fault in the regularity of the supply of blood, how is it that other organs do not betray in a similar manner the derangements of the circulatory function? How is it that so few of us can pass many weeks together with a complete immunity from headache, while we rarely or never have to complain of lung-ache, or spleen-ache, or liver-ache, from corresponding causes? For surely the lungs and the spleen and the liver must occasionally suffer from influences which disturb and partially interrupt their natural actions: and it is only an imperfect reply to these questions to say that the brain is *all nerve*, and therefore, *pro tanto*, more susceptible to external impressions; for the idea of a *sensorium* does not necessarily imply *sensitiveness*, as innumerable experiments on the lower animals have explicitly testified. Whatever may be the proximate explanation of the matter, the ultimate design is, I think, obvious enough. Pain is Nature's great signal of impending danger—an emphatic warning that the organ in which it occurs is for the time incompetent to do its work. For the brain has a complex office, not only managing for us all our thinking processes, but superintending and keeping in play all the vital functions. Our heads ache, and, whether we will or no, we are driven from toil and pleasure to seek quiet and repose. Intellectual activity is suspended, and animal life alone goes on; and in this way a coming peril is warded off, and structural damage is prevented; and all this simply by the exercise of an instinctive law of self-preservation. Double duties are provided for by a double and triple care; and the threatenings of a coming evil are remediable by means which are always placed within our reach, and often under our own control.

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